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DRAINAGE AND HYDROLOGY REPORT

SILVER STREAM ROAD

SILVER STREAM ROAD
TOWN OF NEW WINDSOR
ORANGE COUNTY, NEW YORK

MC PROJECT NO. 07000398A

PREPARED FOR

HILLSIDE COMPANIES INC

FEBRUARY 2008

STATE OF NEW YORK
ANDREW B. FETHERSTON
LICENSED PROFESSIONAL ENGINEER
073558

INTRODUCTION:

The proposed construction of a commercial building and site improvements on this 15-acre site requires a study of the impacts on watercourses in and around the site. This study reviews the existing drainage conditions as well as the proposed improvements to provide measures that will be used to control potential impacts due to storm water runoff. Due to the size of the project, a State Pollutant Discharge Elimination System Permit (SPDES GP 02-01) is required from the New York State Department of Environmental Conservation (NYSDEC). This document is a part of the Storm Water Pollution Prevention Plan, providing a description of each post-construction storm water control practice; identification of the specific locations and sizes of each post-construction storm water control practice; providing a hydrologic and hydraulic analysis for all structural components of the storm water control system for the applicable design storms; providing a comparison of post-development storm water runoff conditions with pre-development conditions.

Runoff from the site is discharged to a proposed detention basin via drainage pipe and overland flow. Mitigation for the increase in peak flow and to provide water quality benefits shall be accomplished using a "Micropool Extended Detention Pond", Design P-1 to provide peak flow as well as water quality benefits. A Micropool Extended Detention Pond is described in the New York State Storm water Management Design Manual as a storm water basin designed for treatment of small drainage areas. The Micropool Extended Detention Ponds designed for the site provide the required water quality benefits, channel protection, overbank flood protection, and extreme flood protection.

Runoff from the loading dock area of the site is defined as hotspot discharge by NYSDEC that requires pretreatment prior to discharging to the Micropool Extended Detention Pond. A NYSDEC approved proprietary product, Stormceptor, will be used to pretreat the 90% water quality rainfall event (1.20 inches for New Windsor).

METHODOLOGY:

1. The watersheds are divided into subareas, by topography and land use. The hydrologic soil type "C" is constant throughout the watersheds. Tabulations of areas and land use descriptions are shown on the enclosed maps and tables. A summary of the watershed areas, composite curve numbers, and lag times are shown in the Table 1.
2. Rainfall depths used for this analysis are the greater of those published by the Town of New Windsor or the New York Guidelines for Urban Erosion and Sediment Control for each storm event studied.
3. The peak flows from the watersheds in the existing condition are computed to determine undeveloped peak runoff and runoff hydrographs at the design points. The existing peak flows are presented in the Table 2.
4. In the post-development condition, the peak flows from the proposed development are computed by using the runoff curve numbers taken from TR-55. The watersheds are adjusted for the proposed improvements and grading of the site. The runoff flows are hydraulically routed for updated travel times, diversions, and new storage structures as necessary. The resulting proposed peak flows at each design point are presented on the Table 2.
5. Maps indicating the various drainage conditions are enclosed in this report. Schematic diagrams of the flow models in the existing and proposed conditions are enclosed in the PondPack output.
6. The methods used are those presented in Haestad Methods PondPack computer program using a shortened printout for convenience. The 100, 25, 10, and 1-year frequency storms are studied. The SCS type III - 24-hour storm distribution (New Windsor) is used throughout. Soil types and hydrologic groups are based on soil maps from the Orange County Soil Survey.

Table 1: Summary Table

Predevelopment			
Watershed	Area, Ac	CN	Tc, Hrs
Watershed 1	12.913	73.00 (73)	0.3972
Watershed 2	2.642	73.00 (73)	0.2810
Total	15.555	73.00 (73)	-
Post Development			
Watershed 1	6.922	73.14 (73)	0.3695
Watershed 2	0.649	73.57 (74)	0.1000
Watershed A	7.984	89.85 (90)	0.1000
Total	15.555	81.73 (82)	-

Table 2: Predevelopment and Post Development Peak Flow Summary to the Design Points

Design Point	Storm Event (Yr)	Predevelopment Peak Flow (Cfs)	Post Development Peak Flow (Cfs)	Net Change (Cfs)	Percent Change Over Prior Conditions
DP – 1	1	7.29	7.17	-0.12	-1.65%
	10	24.73	22.13	-2.60	-10.51%
	25	32.48	30.79	-1.69	-5.20%
	100	44.45	43.57	-0.88	-1.98%
DP – 2	1	1.70	0.58	-1.12	-65.88%
	10	5.76	1.83	-3.93	-68.23%
	25	7.58	2.38	-5.20	-68.60%
	100	10.39	3.23	-7.16	-68.91%

DESCRIPTION:

The design points evaluated in this report are described as follows:

Design Point 1 is located at an existing 36" RCP culvert at the northeast corner of the property. In the predevelopment conditions, Design Point 1 represents the total peak flow from Watershed 1. In the post development conditions, Design Point 1 represents the sum of hydrographs from Watershed 1 and the routed hydrograph from Pond A.

Design Point 2 is located at the southeast corner of the property. Design Point 2 represents the total peak flow from Watershed 2 in the predevelopment and post development conditions.

DISCUSSION:

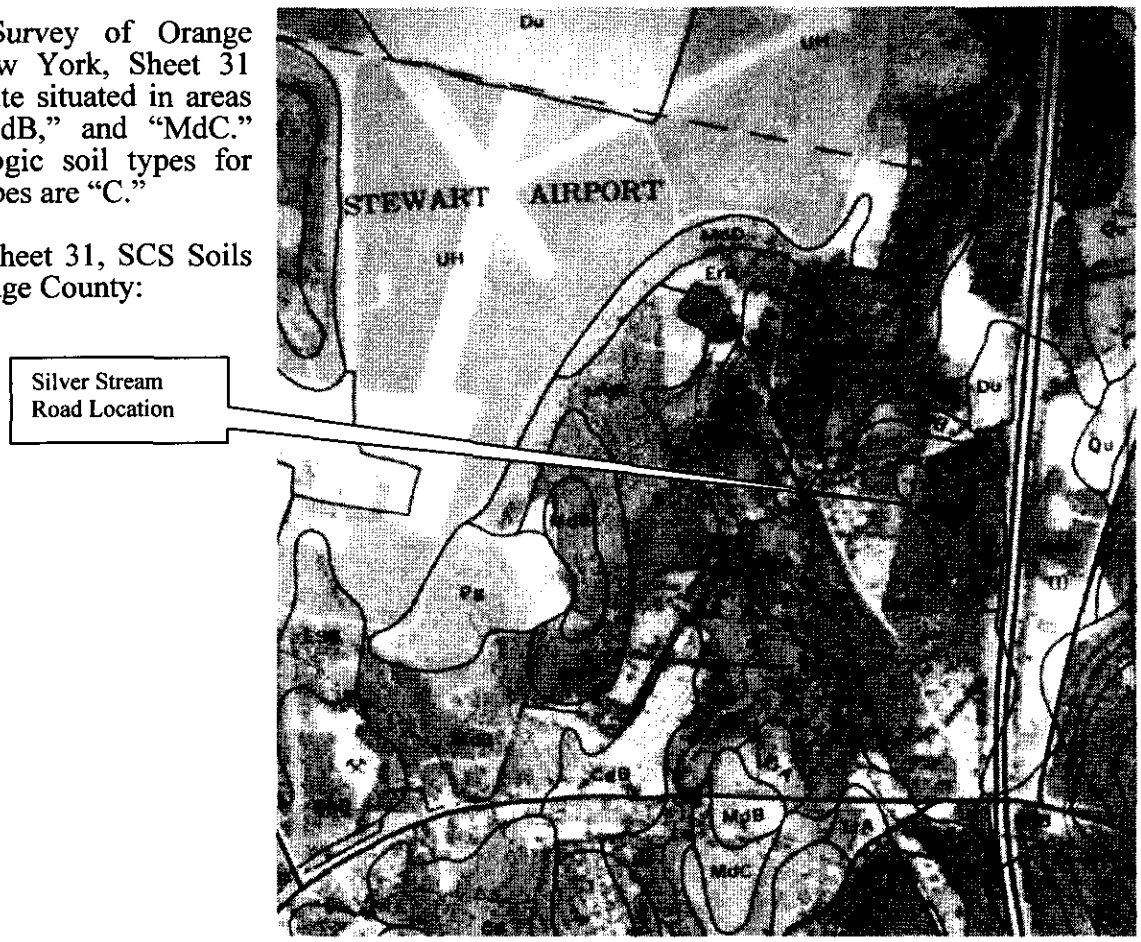
Zero-Net Increase:

The proposed storm water improvements proposed for the site provide mitigation of peak flows for channel protection and flood control per SPDES. A zero net increase in peak flow, or reduction, has been accomplished at each design point in the proposed condition. For example, at Design Point 1 during the 10-year storm event, the peak runoff has been reduced from 24.73 cfs to 22.13 cfs (10.51% reduction).

SCS Soils:

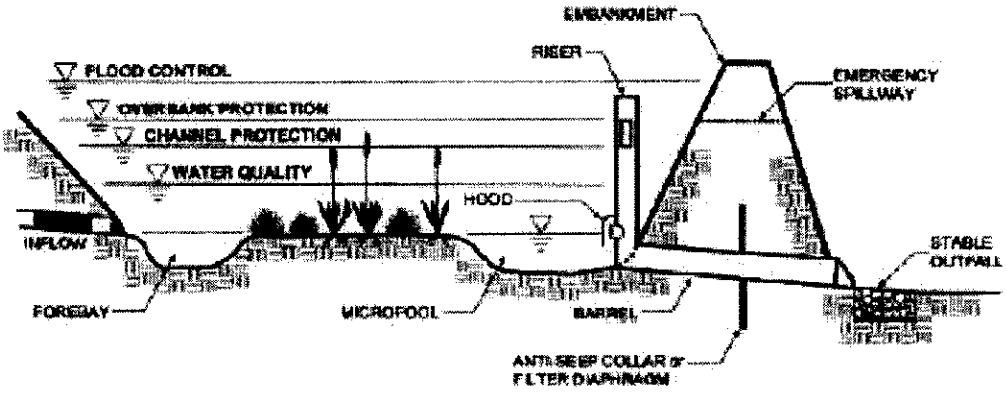
The Soil Survey of Orange County, New York, Sheet 31 shows the site situated in areas labeled, "MdB," and "MdC." The hydrologic soil types for these soil types are "C."

Portion of Sheet 31, SCS Soils Map of Orange County:



Micropool Extended Detention Pond:

Micropool Extended Detention Ponds are storm water basins proposed to provide water quality and quantity mitigation in keeping with the requirements in the New York State Storm Water Management Design Manual (NYSSMDM). A Micropool Extended Detention Pond is a storm water basin design adapted for the treatment of runoff from small drainage areas that have little or no baseflow available to maintain water elevations and relies on ground water to maintain a permanent pool. As such, the PondPack model reservoir routing begins at the normal pool level of the forebay and micropool. A slope of 4:1 was used within the proposed detention basin, thus the need for a safety bench is not required, nor provided, as per NYSDEC. An illustration is provided below:

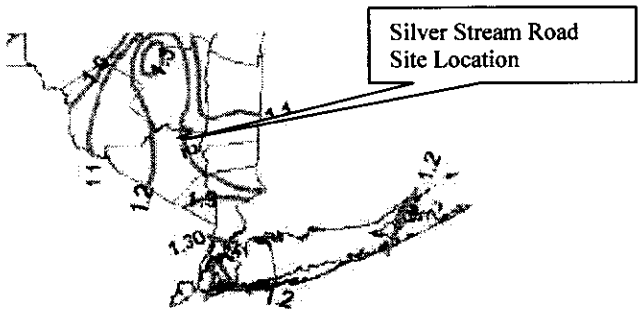


PROFILE

*Figure 6.1 taken from NYSDEC Stormwater Management Design Manual

Water Quality Volume:

To the maximum extent practicable, the first flush of storm water runoff from the site shall be directed to the Micropool Extended Detention Basin designed to treat the Water Quality Volume. Runoff from the locking dock area will be routed directly to the Stormceptor since it requires pretreatment as per NYSDEC. The 90% rainfall event value (P) used in the calculations (1.20) is shown below in the portion of Figure 4.1 from page 4.2 in the NYSSMDM.



90% Rule:

$WQ_v = [(P)(R_v)(A)] / 12$
$R_v = 0.05 + 0.009(I)$
I = Impervious Cover (Percent)
Minimum $R_v = 0.2$
P = 90% Rainfall Event Number (See Figure 4.1)
A = site area in acres

*Figure 4.1 taken from NYSDEC Stormwater Management Design Manual

Maser Consulting determined the total impervious area for the total disturbed area on-site. The Runoff Coefficient "Rv" in the computation of Water Quality Volume WQv is dependent on the percent impervious cover (Minimum Rv = 0.2). As per Section 6.1.4 of the NYSSMDM, 20% of the water quality volume shall be stored in the permanent pool, and 80% shall be stored extended detention for Micropool Extended Detention Ponds. The permanent pool is composed of the forebay and the micropool. The forebay and micropool each hold in excess of the minimum required 20% (10% each) water quality volume in a permanent pool. As such, the PondPack model reservoir routing begins at the normal pool level of the forebay and micropool for each pond.

Water Quality Volume (WQv) Calculations:

	Tributary Area sq. ft.	**Impervious Area sq. ft.**	**P 90% Rainfall**	**Rv**	**WQv, ac-ft**	**WQv, cubic feet**	**20%WQv, cubic feet**
Watershed A	347,777	231,568	1.20	0.65	0.518	**22,580**	**4,516**

Proposed Forebay and Micropool Permanent Pool Volumes:

Forebay #1					
Elevation (ft)	Area (Ac)	Volume Per Contour Interval (Cf)	Cumulative Volume (Cf)	Volume Per Contour Interval (Ac-ft)	Cumulative Volume (Ac-ft)
366.00	0.013	0	0	0.000	0.000
368.00	0.030	1,898	1,898	0.044	0.044
370.00	0.054	3,661	5,559	0.084	0.128
Forebay #2					
Elevation (ft)	Area (Ac)	Volume Per Contour Interval (Cf)	Cumulative Volume (Cf)	Volume Per Contour Interval (Ac-ft)	Cumulative Volume (Ac-ft)
366.00	0.016	0	0	0.000	0.000
368.00	0.035	2,202	2,202	0.051	0.051
370.00	0.060	4,122	6,324	0.095	0.145
Micropool					
Elevation (ft)	Area (Ac)	Volume Per Contour Interval (Cf)	Cumulative Volume (Cf)	Volume Per Contour Interval (Ac-ft)	Cumulative Volume (Ac-ft)
366.00	0.014	0	0	0.000	0.000
368.00	0.036	2,140	2,140	0.049	0.049
370.00	0.066	4,423	6,563	0.102	0.151

Total required 20% WQv tributary to Pond = 4,516 cf, Total provided 82% WQv = 18,446 cf.

The stormwater volume stored in the forebays and micropools (total 18,446 cf) far exceeds the water quality volume storage in the permanent pool that is required by the NYSDEC (total 4,516 cf). An additional water quality volume of 18,064 cf is stored extended detention the proposed detention basin. Overall, there is 36,510 cf of water quality storage provided compared to 22,580 cf required.

Storm Water Basin Volume and Stage/Storage Calculations:

Proposed Pond						
Storm Event (Yr)	Elevation	Area (Ac)	Volume Per Contour Interval (Cf)	Cumulative Volume (Cf)	Volume Per Contour Interval (Ac-ft)	Cumulative Volume (Ac-ft)
	370.00	0.20057	0	0	0.000	0.000
	372.00	0.27192	20,582	20,582	0.472	0.472
	374.00	0.35253	27,201	47,783	0.624	1.097
	376.00	0.44233	34,624	82,407	0.795	1.892
	377.00	0.51561	20,864	103,271	0.479	2.371
Top of berm 377 ft, Freeboard provided from 100-yr storm peak flood elevation 1.23 ft.						

Stormceptor OSR:

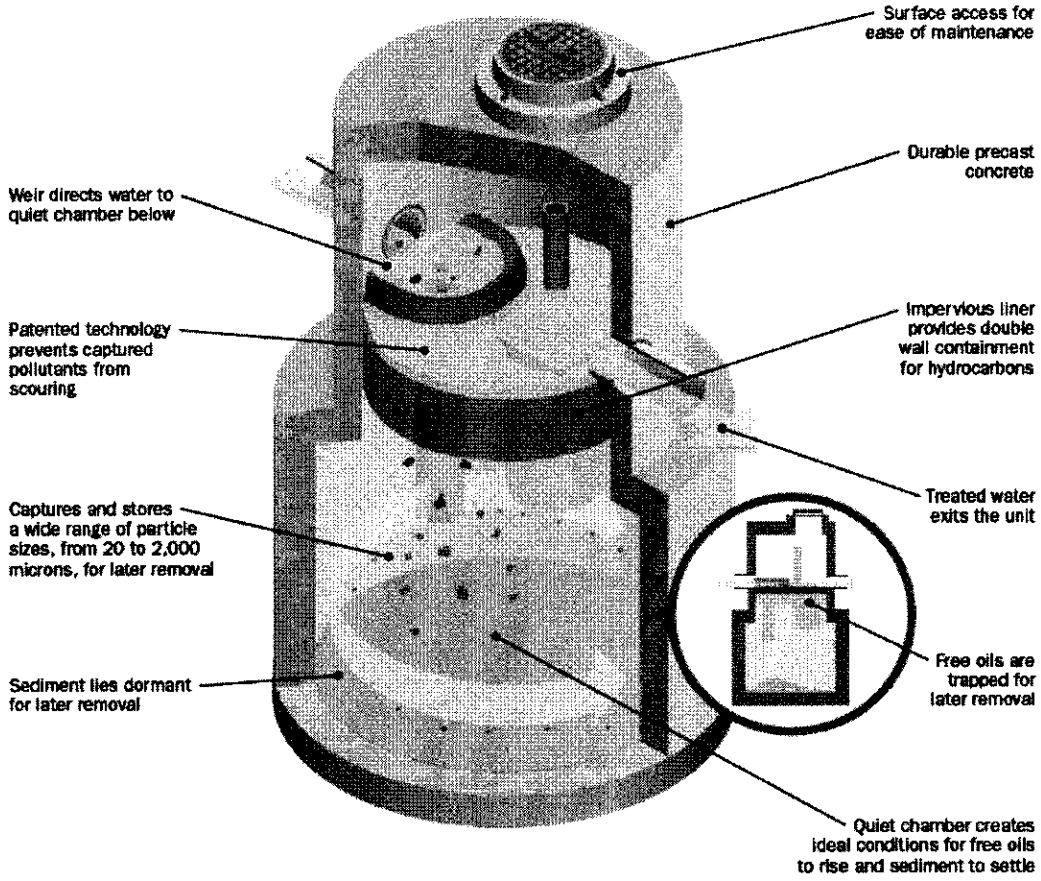
The Stormceptor OSR is a vertically oriented cylindrical structure manufactured from concrete with a fiberglass insert. A weir and orifice plate on the fiberglass insert controls flow rates and operational velocities which are minimized in order to facilitate the capture of fine suspended solids and hydrocarbons, and while retaining them over a range of subsequent hydrological conditions. The dimensions for the Stormceptor OSR are shown below along with a diagram of the structure.

Runoff from the loading dock area of this commercial building meets the NYSDEC definition of a hotspot discharge. Therefore, it is proposed to fully pretreat the 90% water quality rainfall event (1.20 inches) over this area prior to discharging to the Micropool Extended Detention Basin. The peak runoff rate from the water quality storm event calculated for 29,490 square feet of fully impervious locking dock area is 0.63 cfs. To treat this runoff, a Stormceptor OSR 065 will be used for this project site.

Stormceptor Dimensions

OSR Model Number	Sedimentation Chamber Diameter (ft)	Sedimentation Chamber Area (sq ft)	Upper Chamber Diameter (ft)	Treatment Flow Rate (gpm)	Treatment Flow Rate (cfs)
065	4.0	12.58	4.0	282	0.65

Stormceptor Diagram



Construction Sequence:

The basin shall be used as temporary sediment basin during construction. Direct access shall be provided to the basin for maintenance and rehabilitation.

Stormwater Basin Maintenance Requirements:

- Mowing grass, at least twice yearly. Grass clippings and other debris must be removed from the basin area after each cutting.
- Removal of woody brush and trees. Reestablish good grass cover.
- Leaves shall be removed as needed in the fall.
- Restore and reseed eroded areas and gullies along embankment areas. Reoccurring erosion should be inspected by a licensed professional engineer to determine probable cause and remedial action that may be necessary.
- General maintenance and repairs of the storm water outlet and inlet structures.
- Sediment removal from forebay and micropool every five to six years or when 50% full.

Stormceptor Maintenance Requirements:

- Direct access should be provided to the unit for maintenance and rehabilitation.
- Sediment is vacuumed out of the unit through the outlet riser-pipe assembly.
- The unit should be vacuumed out once per year or whenever the sediment accumulates to 15% of the lower chamber's total volume.

SUMMARY OF PROPOSED STORM WATER IMPROVEMENTS:

Maintenance of or reductions in peak flow have been provided at the site for all storm events studied. The proposed basin meets the criteria set in the NYSSMDM. Runoff from the most impervious portions of the site shall be treated in the proposed basin. Runoff from the loading dock area shall be pretreated as per NYSDEC requirements through the Stormceptor.

The combination of peak flow reductions, water quality volume treatment, and vegetated cover should provide long-term treatment of runoff in keeping with the relevant standards.

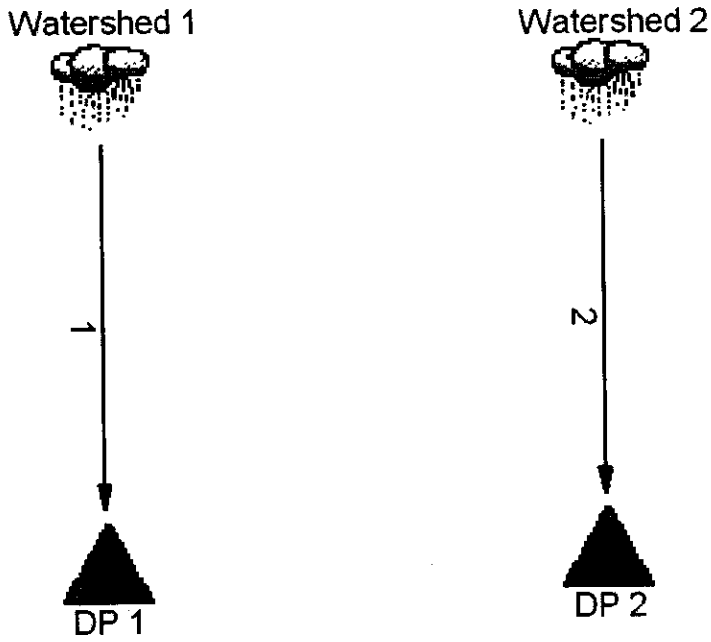
CONCLUSION:

As the proposed storm water management plan allows for the water quality mitigation meeting the applicable standards, there should be no adverse impacts due to storm water, neither on-site nor off-site, as a result of the proposed development.

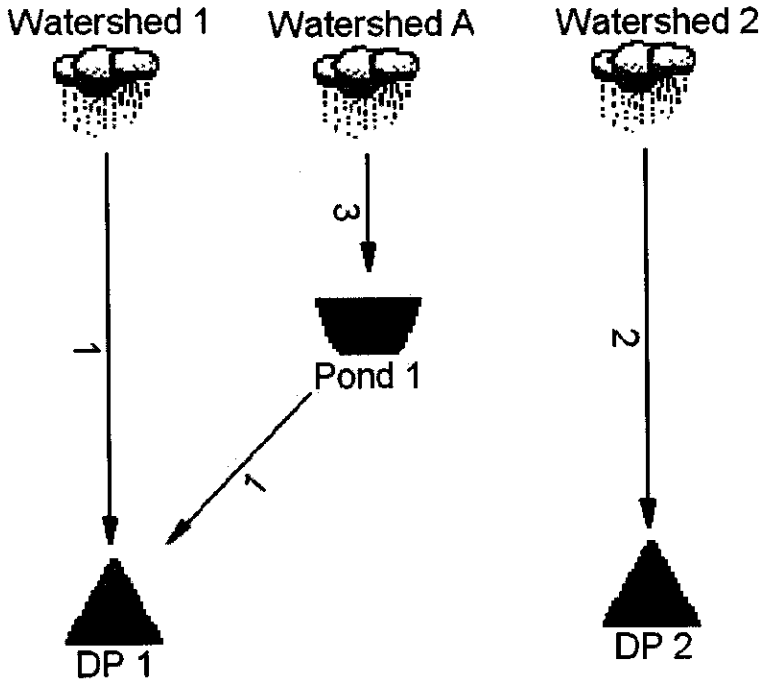
Submitted By:

Andrew B. Fetherston, P.E., CPESC

Predevelopment Watershed Network



Post Development Watershed Network



PREDEVELOPMENT

Project Date: 1/7/2008
Project Engineer: Maser Consulting P.A.
Project Title: Silver Stream Road

MASTER DESIGN STORM SUMMARY

Network Storm Collection: New Windsor

Return Event	Total Depth in	Rainfall Type	RNF ID
1	3.0000	Synthetic Curve	TypeIII 24hr
10	5.5000	Synthetic Curve	TypeIII 24hr
25	6.5000	Synthetic Curve	TypeIII 24hr
100	8.0000	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*DP 1	JCT	1	.922		12.3000	7.29		
*DP 1	JCT	10	2.882		12.3000	24.73		
*DP 1	JCT	25	3.773		12.3000	32.48		
*DP 1	JCT	100	5.174		12.3000	44.45		
*DP 2	JCT	1	.189		12.2500	1.70		
*DP 2	JCT	10	.589		12.2000	5.76		
*DP 2	JCT	25	.772		12.2000	7.58		
*DP 2	JCT	100	1.058		12.2000	10.39		
WATERSHED 1	AREA	1	.922		12.3000	7.29		
WATERSHED 1	AREA	10	2.882		12.3000	24.73		
WATERSHED 1	AREA	25	3.773		12.3000	32.48		
WATERSHED 1	AREA	100	5.174		12.3000	44.45		
WATERSHED 2	AREA	1	.189		12.2500	1.70		
WATERSHED 2	AREA	10	.589		12.2000	5.76		
WATERSHED 2	AREA	25	.772		12.2000	7.58		
WATERSHED 2	AREA	100	1.058		12.2000	10.39		

DESIGN STORMS SUMMARY

Design Storm File,ID = New Windsor

Storm Tag Name = 1

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 1 yr
Total Rainfall Depth= 3.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

```
Storm Tag Name      = 10
-------------------------------------------------------------------------
Data Type, File, ID = Synthetic Storm    TypeIII 24hr
Storm Frequency     = 10 yr
Total Rainfall Depth= 5.5000 in
Duration Multiplier =  1
Resulting Duration  = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs


Storm Tag Name      = 25
-------------------------------------------------------------------------
Data Type, File, ID = Synthetic Storm    TypeIII 24hr
Storm Frequency     = 25 yr
Total Rainfall Depth= 6.5000 in
Duration Multiplier =  1
Resulting Duration  = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs


Storm Tag Name      = 100
-------------------------------------------------------------------------
Data Type, File, ID = Synthetic Storm    TypeIII 24hr
Storm Frequency     = 100 yr
Total Rainfall Depth= 8.0000 in
Duration Multiplier =  1
Resulting Duration  = 24.0000 hrs
Resulting Start Time= .0000 hrs  Step= .1000 hrs  End= 24.0000 hrs


::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
WATERSHED 1 TIME OF CONCENTRATION CALCULATOR
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::


-------------------------------------------------------------------------


Segment #1:  Tc: TR-55 Sheet

Mannings n          .4000
Hydraulic Length   100.00 ft
2yr, 24hr P        3.7500 in
Slope             .027000 ft/ft

Avg.Velocity          .09 ft/sec

                                        Segment #1 Time:     .2932 hrs
-------------------------------------------------------------------------

Segment #2:  Tc: TR-55 Shallow

Hydraulic Length   612.00 ft
Slope             .151000 ft/ft
Unpaved

Avg.Velocity         6.27 ft/sec

                                        Segment #2 Time:     .0271 hrs
-------------------------------------------------------------------------

Segment #3:  Tc: TR-55 Shallow

Hydraulic Length   468.00 ft
Slope             .011000 ft/ft
Unpaved

Avg.Velocity         1.69 ft/sec

                                        Segment #3 Time:     .0768 hrs
-------------------------------------------------------------------------

                                       ========================
                                        Total Tc:     .3972 hrs
                                       ========================
```

::
WATERSHED 2 TIME OF CONCENTRATION CALCULATOR
::

Segment #1: Tc: TR-55 Sheet

Mannings n	.4000
Hydraulic Length	100.00 ft
2yr, 24hr P	3.7500 in
Slope	.037000 ft/ft
Avg.Velocity	.11 ft/sec

Segment #1 Time: .2585 hrs

Segment #2: Tc: TR-55 Shallow

Hydraulic Length	390.00 ft
Slope	.089000 ft/ft
Unpaved	
Avg.Velocity	4.81 ft/sec

Segment #2 Time: .0225 hrs

Total Tc: .2810 hrs

::
WATERSHED 1 RUNOFF CURVE NUMBER DATA
::

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Woods, fair, soil "C"	73	12.910			73.00
COMPOSITE AREA & WEIGHTED CN --->		12.910			73.00 (73)

::
WATERSHED 2 RUNOFF CURVE NUMBER DATA
::

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Woods, fair, soil "C"	73	2.640			73.00
COMPOSITE AREA & WEIGHTED CN --->		2.640			73.00 (73)

LOADING DOCK RUNOFF CALCULATION

Project Date: 1/7/2008
Project Engineer: Maser Consulting P.A.
Project Title: Silver Stream Road

MASTER DESIGN STORM SUMMARY

Network Storm Collection: WQv-New Windsor

Return Event	Total Depth in	Rainfall Type	RNF ID
1	1.2000	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
DOCK	AREA	1	.056		12.1000	.63		
*DOCK	JCT	1	.056		12.1000	.63		

DESIGN STORMS SUMMARY

Design Storm File,ID = WQv-New Windsor

Storm Tag Name = 1

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 1 yr
Total Rainfall Depth= 1.2000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

TIME OF CONCENTRATION CALCULATOR

Segment #1: Tc: User Defined

Segment #1 Time: .1000 hrs

Total Tc: .1000 hrs

::
RUNOFF CURVE NUMBER DATA
::

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Impervious	98	.677			98.00
COMPOSITE AREA & WEIGHTED CN --->		.677			98.00 (98)

POST DEVELOPMENT

Project Date: 1/7/2008
Project Engineer: Maser Consulting P.A.
Project Title: Silver Stream Road

MASTER DESIGN STORM SUMMARY

Network Storm Collection: New Windsor

Return Event	Total Depth in	Rainfall Type	RNF ID
1	3.0000	Synthetic Curve	TypeIII 24hr
10	5.5000	Synthetic Curve	TypeIII 24hr
25	6.5000	Synthetic Curve	TypeIII 24hr
100	8.0000	Synthetic Curve	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID		Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*DP 1		JCT	1	1.813		12.3750	7.17		
*DP 1		JCT	10	4.443		12.3000	22.13		
*DP 1		JCT	25	5.569		12.3000	30.79		
*DP 1		JCT	100	7.299		12.2750	43.57		
*DP 2		JCT	1	.049		12.1250	.58		
*DP 2		JCT	10	.150		12.1000	1.83		
*DP 2		JCT	25	.195		12.1000	2.38		
*DP 2		JCT	100	.266		12.1000	3.23		
POND 1	IN	POND	1	1.320		12.1000	15.88		
POND 1	IN	POND	10	2.901		12.1000	33.47		
POND 1	IN	POND	25	3.549		12.1000	40.44		
POND 1	IN	POND	100	4.528		12.1000	50.81		
POND 1	OUT	POND	1	1.319		12.5250	3.45	372.56	.628
POND 1	OUT	POND	10	2.898		12.4500	9.40	374.58	1.305
POND 1	OUT	POND	25	3.546		12.4000	13.54	375.10	1.507
POND 1	OUT	POND	100	4.524		12.3500	19.39	375.77	1.785
WATERSHED 1		AREA	1	.495		12.3000	4.04		
WATERSHED 1		AREA	10	1.545		12.2750	13.67		
WATERSHED 1		AREA	25	2.023		12.2750	17.96		
WATERSHED 1		AREA	100	2.774		12.2750	24.58		
WATERSHED 2		AREA	1	.049		12.1250	.58		
WATERSHED 2		AREA	10	.150		12.1000	1.83		
WATERSHED 2		AREA	25	.195		12.1000	2.38		
WATERSHED 2		AREA	100	.266		12.1000	3.23		
WATERSHED A		AREA	1	1.320		12.1000	15.88		
WATERSHED A		AREA	10	2.901		12.1000	33.47		
WATERSHED A		AREA	25	3.549		12.1000	40.44		
WATERSHED A		AREA	100	4.528		12.1000	50.81		

DESIGN STORMS SUMMARY

Design Storm File,ID = New Windsor

Storm Tag Name = 1

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 1 yr
Total Rainfall Depth= 3.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 10

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 5.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 25

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 25 yr
Total Rainfall Depth= 6.5000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 100

Data Type, File, ID = Synthetic Storm TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 8.0000 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

::
WATERSHED 1 TIME OF CONCENTRATION CALCULATOR
::

Segment #1: Tc: TR-55 Sheet

Mannings n .4000
Hydraulic Length 100.00 ft
2yr, 24hr P 3.7500 in
Slope .021000 ft/ft

Avg.Velocity .09 ft/sec

Segment #1 Time: .3242 hrs

Segment #2: Tc: TR-55 Shallow

Hydraulic Length 235.00 ft
Slope .008000 ft/ft
Unpaved

Avg.Velocity 1.44 ft/sec

Segment #2 Time: .0452 hrs

Total Tc: .3695 hrs

::
WATERSHED 2 TIME OF CONCENTRATION CALCULATOR
::

Segment #1: Tc: User Defined

Segment #1 Time: .1000 hrs

Total Tc: .1000 hrs

Calculated Tc < Min.Tc:
Use Minimum Tc...
Use Tc = .1000 hrs

::
WATERSHED A TIME OF CONCENTRATION CALCULATOR
::

Segment #1: Tc: User Defined

Segment #1 Time: .1000 hrs

Total Tc: .1000 hrs

Calculated Tc < Min.Tc:
Use Minimum Tc...
Use Tc = .1000 hrs

::
WATERSHED 1 RUNOFF CURVE NUMBER DATA
::

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Woods, fair, soil "C"	73	5.928			73.00
Lawn, good, soil "C"	74	.994			74.00
COMPOSITE AREA & WEIGHTED CN --->		6.922			73.14 (73)

::
WATERSHED 2 RUNOFF CURVE NUMBER DATA
::

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Lawn, good, soil "C"	74	.369			74.00
Woods, fair, soil "C"	73	.280			73.00
COMPOSITE AREA & WEIGHTED CN --->		.649			73.57 (74)

```
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
WATERSHED A RUNOFF CURVE NUMBER DATA
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
```

Soil/Surface Description	CN	Area acres	Impervious Adjustment %C	%UC	Adjusted CN
Impervious	98	5.198			98.00
Lawn, good, soil "C"	74	2.668			74.00
Gravel, soil "C"	89	.118			89.00
COMPOSITE AREA & WEIGHTED CN --->		7.984			89.85 (90)

OUTLET STRUCTURE INPUT DATA

```
Structure ID      = W1
Structure Type    = Weir-Rectangular
-------------------------------------
# of Openings     =         1
Crest Elev.       =    374.00 ft
Weir Length       =      1.75 ft
Weir Coeff.       =  3.367000

Weir TW effects     (Use adjustment equation)
```

```
Structure ID      = O2
Structure Type    = Orifice-Circular
-------------------------------------
# of Openings     =         1
Invert Elev.      =    371.50 ft
Diameter          =    1.0000 ft
Orifice Coeff.    =      .600
```

```
Structure ID      = O1
Structure Type    = Orifice-Circular
-------------------------------------
# of Openings     =         1
Invert Elev.      =    370.00 ft
Diameter          =     .3333 ft
Orifice Coeff.    =      .600
```

```
Structure ID      = TW
Structure Type    = TW SETUP, DS Channel
-------------------------------------
FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...
Maximum Iterations=    30
Min. TW tolerance =    .01 ft
Max. TW tolerance =    .01 ft
Min. HW tolerance =    .01 ft
Max. HW tolerance =    .01 ft
Min.  Q tolerance =    .10 cfs
Max.  Q tolerance =    .10 cfs
```

LEVEL POOL ROUTING DATA

HYG Dir = \\Nbcad\projects\2007\07000398A\Reports\Storm\
Inflow HYG file = NONE STORED - POND 1 IN 1
Outflow HYG file = NONE STORED - POND 1 OUT 1

Pond Node Data = POND 1
Pond Volume Data = POND 1
Pond Outlet Data = Outlet 1

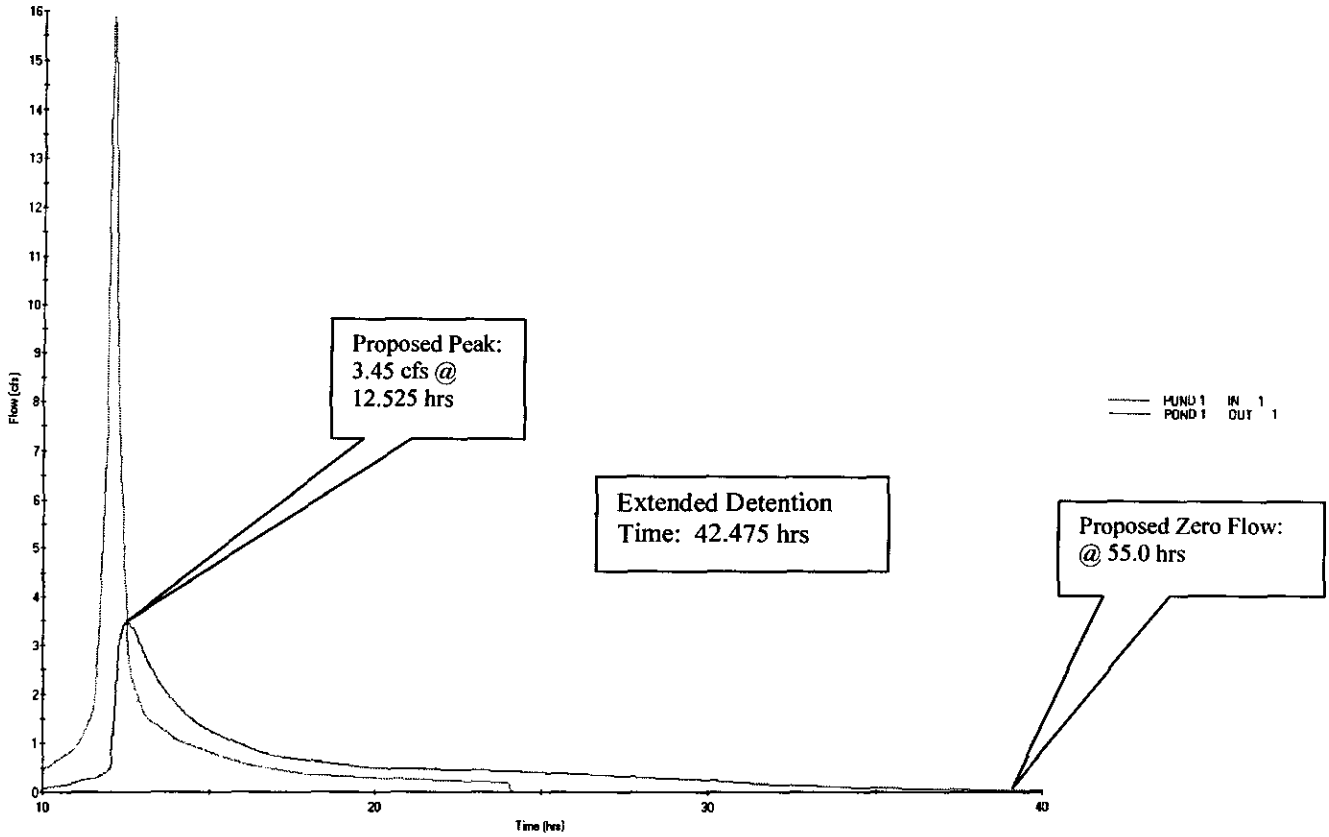
No Infiltration

INITIAL CONDITIONS

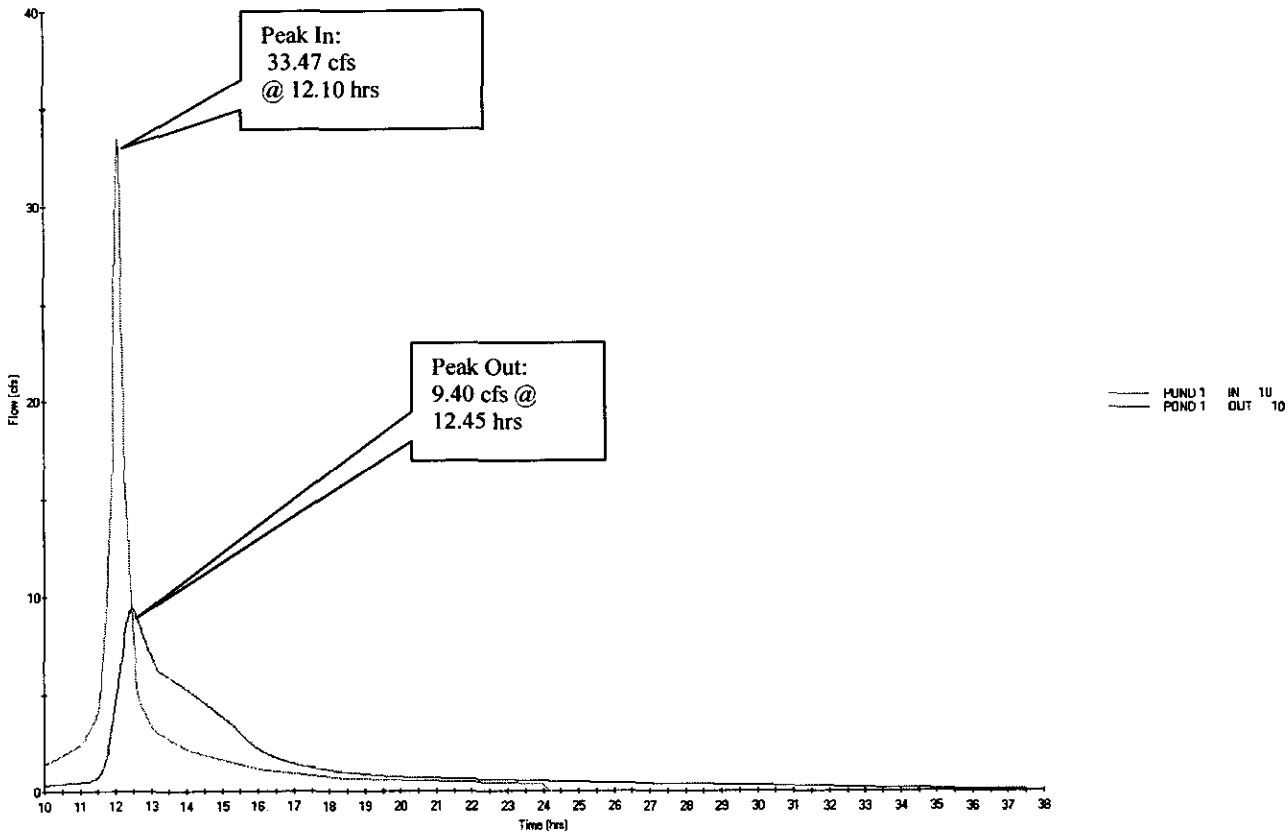
Starting WS Elev = 370.00 ft
Starting Volume = .000 ac-ft
Starting Outflow = .00 cfs
Starting Infiltr. = .00 cfs
Starting Total Qout= .00 cfs
Time Increment = .0250 hrs

Elevation ft	Outflow cfs	Storage ac-ft	Area acres	Infilt. cfs	Q Total cfs	2S/t + O cfs
370.00	.00	.000	.2006	.00	.00	.00
370.25	.10	.051	.2089	.00	.10	49.64
370.50	.24	.104	.2174	.00	.24	101.36
370.75	.32	.160	.2261	.00	.32	155.09
371.00	.38	.218	.2349	.00	.38	210.93
371.25	.44	.277	.2439	.00	.44	268.91
371.50	.48	.339	.2531	.00	.48	329.09
371.75	.73	.404	.2624	.00	.73	391.70
372.00	1.33	.471	.2719	.00	1.33	456.95
372.25	2.19	.540	.2814	.00	2.19	524.77
372.50	3.31	.611	.2911	.00	3.31	595.16
372.75	3.95	.685	.3009	.00	3.95	667.42
373.00	4.49	.762	.3109	.00	4.49	741.99
373.25	4.96	.841	.3211	.00	4.96	818.94
373.50	5.40	.922	.3314	.00	5.40	898.32
373.75	5.80	1.007	.3419	.00	5.80	980.18
374.00	6.17	1.093	.3525	.00	6.17	1064.57
374.25	7.23	1.183	.3632	.00	7.23	1152.24
374.50	8.82	1.275	.3740	.00	8.82	1243.02
374.75	10.67	1.370	.3850	.00	10.67	1336.71
375.00	12.69	1.468	.3962	.00	12.69	1433.25
375.25	14.82	1.568	.4075	.00	14.82	1532.62
375.50	17.01	1.671	.4189	.00	17.01	1634.80
375.75	19.23	1.777	.4305	.00	19.23	1739.80
376.00	21.43	1.887	.4423	.00	21.43	1847.62

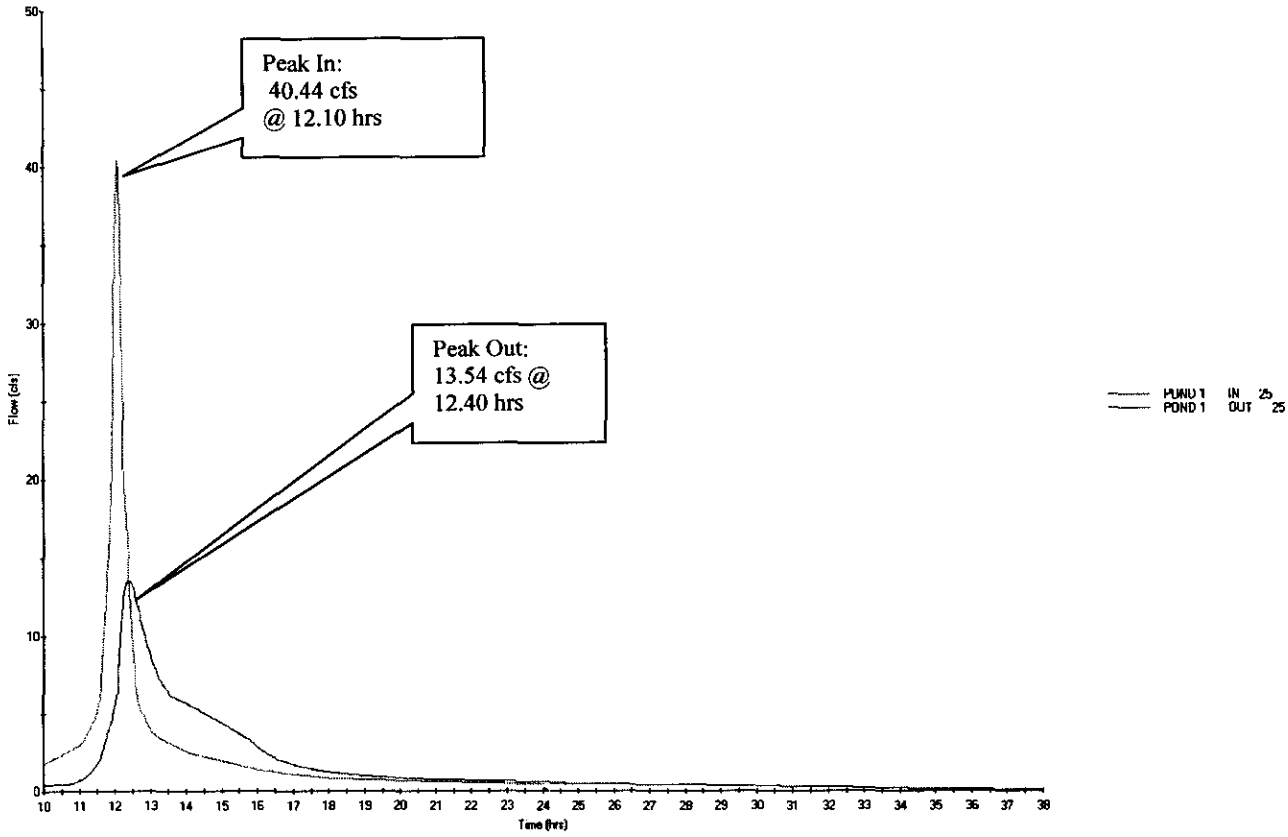
1-Year Storm Hydrograph at Basin



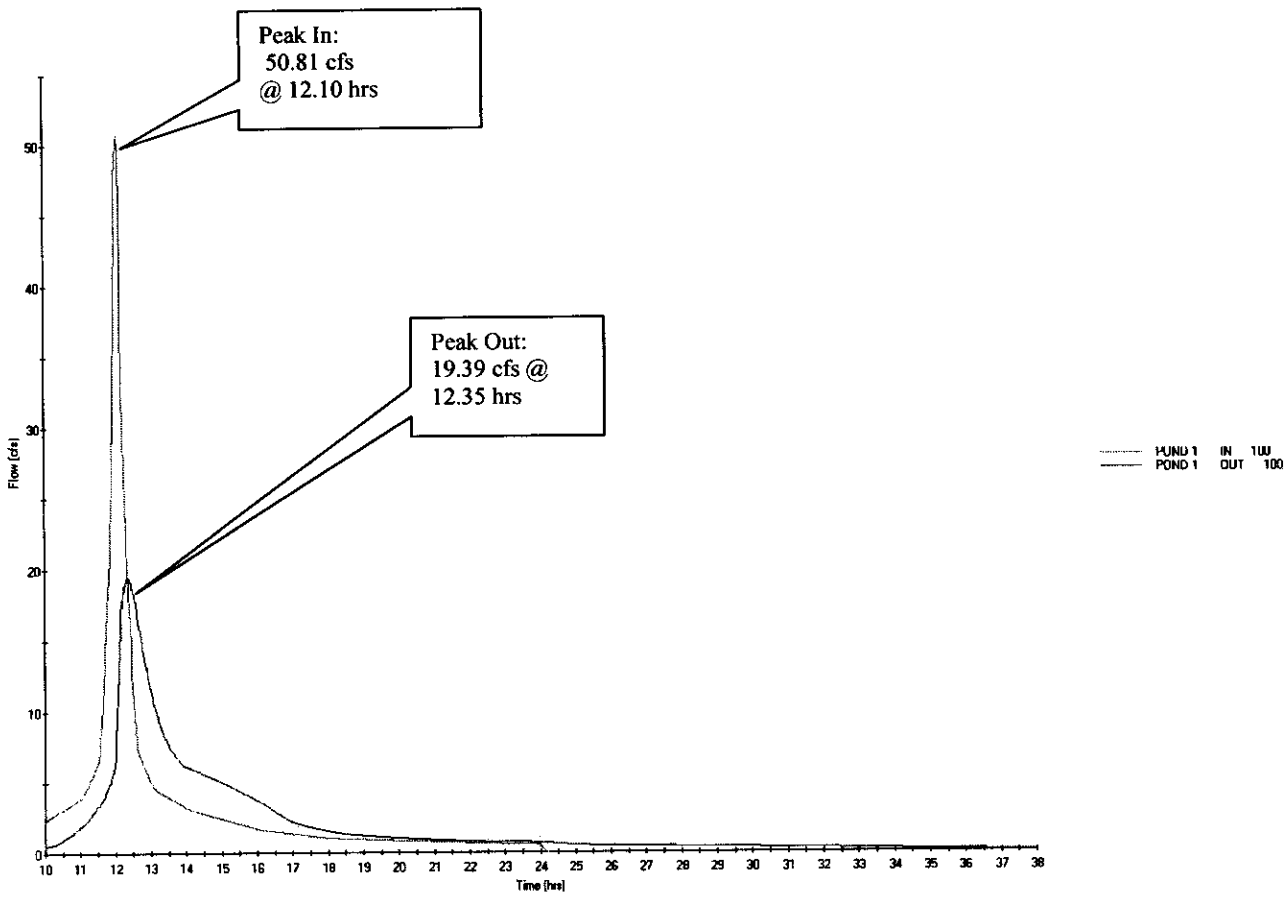
10-Year Storm Hydrograph at Basin



25-Year Storm Hydrograph at Basin



100-Year Storm Hydrograph at Basin



APPENDIX

TABLE OF CONTENTS

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

CONSTRUCTION SITE LOG BOOK

Table of Contents

Properly completing forms such as those contained in Appendix H meet the inspection requirement of NYS-DEC SPDES GP for Construction Activities. Completed forms shall be kept on site at all times and made available to authorities upon request.

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. Preamble to Site Assessment and Inspections

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified professional[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

c. Qualified Professional's Credentials & Certification

"I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (please print): _____

Title _____ **Date:** _____

Address: _____

Phone: _____ **Email:** _____

Signature: _____

d. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:
Inspection Forms will be filled out during the entire construction phase of the project.
Required Elements:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

(4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass
water; and

(6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Professional (print name)	**Qualified Professional Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions
Yes No NA
[ ] [ ] [ ] Is construction site litter and debris appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing
Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering
Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader
Yes No NA
[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales
Yes No NA
[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam
Yes No NA
[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection
Yes No NA
[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles
Yes No NA
[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation
Yes No NA
[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Stabilized Construction Entrance
Yes No NA
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence
Yes No NA
[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation ___% of design capacity.

4. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.

Sediment accumulation is ___% of design capacity.

5. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design.
Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

III. Monthly Summary of Site Inspection Activities

Name of Permitted Facility:	Today's Date:	Reporting Month:
Location:	Permit Identification #:	
Name and Telephone Number of Site Inspector:		

Date of Inspection	Regular / Rainfall based Inspection	Name of Inspector	Items of Concern

Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature of Permittee or Duly Authorized Representative

Name of Permittee or Duly Authorized Representative Date

Duly authorized representatives must have written authorization, submitted to DEC, to sign any permit documents.

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

Construction Stormwater Inspection Report (for SPDES General Permit GP-02-01)

Project Name and Location:	Date:	Page 1 of _____
	Permit # (if any): NYR	
Municipality: County:	Entry Time:(ex. 1:10 am)	Exit Time:
On-site Representative(s): Phone Number:	Weather Conditions:	
Name and Address of SPDES Permittee/Title/Phone/Fax Numbers: Contacted Yes ☐ No ☐		

INSPECTION CHECKLIST

SPDES Authority

	Yes	No	N/A		Citation
1.	☐	☐	☐	Is a copy of the NOI posted at the construction site for public viewing?	GP-02-01: I.D.5.
2.	☐	☐	☐	Is an up-to-date copy of the signed SWPPP retained at the construction site?	GP-02-01: III.B.1. & IV.C.
3.	☐	☐	☐	Is a copy of the SPDES General Permit retained at the construction site?	6 NYCRR 750-2.1(a)

SWPPP Content

	Yes	No	N/A		Citation
4.	☐	☐	☐	Does the SWPPP describe and identify the erosion & sediment control measures to be employed?	GP-02-01: III.D.2.a.(7) & (8)
5.	☐	☐	☐	Does the SWPPP provide a maintenance schedule for the erosion & sediment control measures?	GP-02-01: III.D.2.a.(12)
6.	☐	☐	☐	Does the SWPPP describe and identify the post-construction SW control measures to be employed?	GP-02-01: III.D.2.b.(2) & (3)
7.	☐	☐	☐	Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?	GP-02-01: III.E.1.
8.	☐	☐	☐	Does the SWPPP include all the necessary contractor certification statements?	GP-02-01: III.E.2.
9.	☐	☐	☐	Is the SWPPP signed/certified by the permittee?	GP-02-01: V.H.2.

Recordkeeping

	Yes	No	N/A		Citation
10.	☐	☐	☐	Are inspections being performed as required by the permit (every 7 days and after ½" rain event)?	GP-02-01: III.D.3.b.
11.	☐	☐	☐	Are the site inspections being performed by a qualified professional?	GP-02-01: III.D.3.a.
12.	☐	☐	☐	Are all required reports signed/certified by the permittee?	GP-02-01: V.H.2.
13.	☐	☐	☐	Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status?	GP-02-01: IV.D.

Visual Observations

	Yes	No	N/A		Citation
14.	☐	☐	☐	All erosion and sediment control measures have been installed/constructed?	GP-02-01: III.A.2.
15.	☐	☐	☐	All erosion and sediment control measures are being maintained properly?	GP-02-01: V.L.
16.	☐	☐	☐	Are there currently more than 5 acres of disturbed soil at the site without prior approval?	GP-02-01: III.D.2.a.(4)
17.	☐	☐	☐	Have stabilization measures been initiated in inactive areas?	GP-02-01: III.D.4.
18.	☐	☐	☐	Are permanent stormwater control measures being implemented?	GP-02-01: III.A.2.
19.	☐	☐	☐	Was there a discharge into the receiving water on the day of inspection?	
20.	☐	☐	☐	Is there evidence of turbidity, sedimentation, or oil in the receiving waters? (If yes, complete Page 2)	ECL 17-0501, 6 NYCRR 703.2

Overall Inspection Rating: ☐ Satisfactory ☐ Marginal ☐ Unsatisfactory	
Name/Agency of Lead Inspector:	**Signature of Lead Inspector:**
Names/Agencies of Other Inspectors:	

Water Quality Observations

Describe the discharge(s) [source(s), impact on receiving water(s), etc.]

Describe the quality of the receiving water(s) both upstream and downstream of the discharge

Describe any other water quality standards or permit violations

Additional Comments:

☐ Photographs attached

[redacted]

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity
Permit Number GP-02-01
Monthly Summary of Site Inspection Activities

Name of Permitted Facility:	**Permit Identification #:**	
Location:	**Today's Date:**	**Reporting Month:**
Name and Telephone Number of Site Inspector:	**Name and Telephone Number of Site Inspector:**	

Permit Reference; Part III.D.3.b (page 15):

"The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis."

Date of Inspection	Type of Inspection and 24 hr Rainfall	Name of Qualified Professional conducting Site Inspections	Major items of concern related to compliance of the SWPPP with all conditions of the general permit	Date Corrected

Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature of Permittee or Duly Authorized Representative

Name of Permittee or Duly Authorized Representative

Date

Duly authorized representatives of the Permittee (Owner/Operator) must have written authorization, submitted to DEC, to sign any permit documents.

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity
Permit Number GP-02-01

Quarterly Summary of SWPPP Status with Permit Compliance

Name of Permitted Facility:	Permit Identification #:	Today's Date:	
Location (Town and County):	**Reporting Period:**	**Acres Disturbed:**	**Acres Stabilized:**

Permit Reference; Part IV.D (page 18):

"The operator shall also prepare a written summary of its status with respect to compliance with this general permit at a minimum frequency of every three months during which coverage under this permit exists. The summary should address the status of achieving each component of the SWPPP. This summary shall be handled in the same manner as prescribed for SWPPPs under Part III, subsection B (see Page 9)."

Component of SWPPP (All SWM and E&SC Practices)	**Compliant** (Yes / No)	**Comments on achieving each component of the SWPPP** (Issues related to installation, maintenance, or use of practices)
Permanent EC Measures		*EXAMPLE*
Exposed Slope Stabilization:	Yes	As construction is completed in area 2, slopes have been stabilized with mulch and seed. Grass germination is at 60%. This work has been detailed in the regular inspection reports as to the extent and schedule of completion.

Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature of Permittee or Duly Authorized Representative	Name of Permittee or Duly Authorized Representative	Date	__ of __ pages

Duly authorized representatives of the Permittee must have written authorization, submitted to DEC, to sign any permit documents

1752059166

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____ (for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-02-01

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required. To properly complete this form, please refer to the Instruction Manual which can be accessed at http://www.dec.ny.gov/docs/water_pdf/instr_man.pdf

-IMPORTANT-

THIS FORM FOR MACHINE PRINT ONLY
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR **MUST SIGN FORM**

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
Silver Stream Properties LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Perez

Owner/Operator Contact Person First Name
Michael

Owner/Operator Mailing Address
142 Route 17K PO Box 7451

City
Newburgh

State
NY

Zip
12550-____

Phone (Owner/Operator)
845-566-1010

Fax (Owner/Operator)
845-567-9915

Email (Owner/Operator)
mperez@hillsidecompanies.com

Location Information

Project Site Information

Project/Site Name
Silver Stream Road Corporate Park

Street Address (NOT P.O. BOX)
Silver Stream Road

City/Town/Village (THAT ISSUES BUILDING PERMIT)
New Windsor

State
NY

Zip
12553 -

County
Orange County

DEC Region (if known)
3

Name of Nearest Cross Street
Route 207

Distance to Nearest Cross Street (Feet)
2400

Direction to Nearest Cross Street
○ North ● South ○ East ○ West

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.state.ny.us/website/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site go to the dropdown menu on the left and choose "Get Coordinates". Click on the center of your site and a small window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
576741

Y Coordinates (Northing)
4593681

2. What is the nature of this construction project?

● **New Construction**

○ **Redevelopment with increase in imperviousness**

○ **Redevelopment with no increase in imperviousness**

Project Site Information

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	Post-Development Future Land Use
● FOREST	○ SINGLE FAMILY HOME
○ PASTURE/OPEN LAND	○ SINGLE FAMILY SUBDIVISION
○ CULTIVATED LAND	○ TOWN HOME RESIDENTIAL
○ SINGLE FAMILY HOME	○ MULTIFAMILY RESIDENTIAL
○ SINGLE FAMILY SUBDIVISION	○ INSTITUTIONAL/SCHOOL
○ TOWN HOME RESIDENTIAL	● INDUSTRIAL
○ MULTIFAMILY RESIDENTIAL	○ COMMERCIAL
○ INSTITUTIONAL/SCHOOL	○ ROAD/HIGHWAY
○ INDUSTRIAL	○ RECREATIONAL/SPORTS FIELD
○ COMMERCIAL	○ BIKE PATH/TRAIL
○ ROAD/HIGHWAY	○ LINEAR UTILITY (water, sewer, gas, etc.)
○ RECREATIONAL/SPORTS FIELD	○ PARKING LOT
○ BIKE PATH/TRAIL	○ OTHER
○ SUBSURFACE UTILITY	
○ PARKING LOT	
○ OTHER	

Number of Lots:

OTHER:

OTHER:

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ?
○ Yes ● No

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)?
○ Yes ● No

6. Is this property owned by a state authority, state agency or local government?
○ Yes ● No

7. In accordance with the larger common plan of development or sale; enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	Acreage To Be Disturbed	Existing Impervious Area Within Disturbed	Future Impervious Area Within Disturbed
15.6	9.4	0.0	5.9

8. Will there be more than 5 acres disturbed at any given time?
○ Yes ● No

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
0 %	0 %	100 %	0 %

10. Is this a phased project? **(if yes, The SWPPP must address all planned phases)** * ○ Yes ● No

11. Enter the planned start and end dates of the disturbance activities

Start Date 10/16/2007 – **End Date** 12/31/2008

Receiving System(s)

12. Provide the name of the nearest, natural, classified surface waterbody(ies) into which construction site runoff has the potential to discharge.

Lake Washington

For Questions 13 and 14 refer to the Instruction Manual for a subset of 303(d) segments and TMDL watersheds subject to Condition A of the permit. These waterbodies and watersheds have been identified for regulation within the stormwater program due to some level of impairment by nutrients, silt or sediment. The Instruction Manual can be accessed at www.dec.state.ny.us/website/dow/toolbox/instr_man.pdf

13. Has the surface waterbody(ies) in question 12 been identified as a 303(d) segment? * ○ Yes ● No

14. Is this project located in a TMDL Watershed? * ○ Yes ● No

***NOTE:** If you answered Yes to either question 13 or 14, Pursuant to Part I.D.3.(b) of the permit, you must have your SWPPP prepared and certified by a licensed/certified professional and the SWPPP is subject to a 60-business day review.*

15. Does the site runoff enter a separate storm sewer system- including roadside drains, swales, ditches, culverts, etc? **(if no, skip question 16)** ● Yes ○ No ○ Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

Town of New Windsor, Orange County

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

Stormwater Pollution Prevention Plan (SWPPP)

18. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ? ● Yes ○ No*

19. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices) **If no, Skip question 20** ● Yes ○ No

20. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ? ● Yes ○ No*

NOTE: If you answered no to question 18 or 20, Pursuant to Part I.D.3.(b) of the permit, you must have your SWPPP prepared and certified by a licensed/certified professional and the SWPPP is subject to a 60-business day review. Please provide further details in the details/comment section on the last page of this form.

21. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ● **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer Information
(if different from Owner/Operator info)

SWPPP Preparer
Maser Consulting P.A.

Contact Name (Last, Space, First)
Fetherston, Andrew

Mailing Address
1607 Route 300 / Suite 101

City
Newburgh

State
NY

Zip
12550 -

Phone
845 - 564 - 4495

Fax
845 - 564 - 0278

Email
afetherston@maserconsulting.com

Stormwater Pollution Prevention Plan (SWPPP)

Erosion and Sediment Control Practices

22. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

23. Select **all** of the erosion and sediment control practices that will be employed on the project site.

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ● Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Stormwater Pollution Prevention Plan (SWPPP)

Water Quality and Quantity Control

Important:Completion of Questions 24-30 is not required if the project:

Disturbs less than 5 acres and is planned for single-family residential homes(including subdivisions) or construction on agricultural property and does not have a discharge to a 303(d) water or is not located within a TMDL watershed.

Additionally, sites where there will be no future impervious area within the disturbed area and that do not have a change(pre to post development)in hydrology do not need to complete questions 24-30.

24. Indicate **all** the permanent Stormwater Management Practice(s) that will be installed on this site

Post Construction Stormwater Management Practices

Ponds

- ● Micropool Extended Detention (P-1)
- ○ Wet Pond (P-2)
- ○ Wet Extended Detention (P-3)
- ○ Multiple Pond System (P-4)
- ○ Pocket Pond (P-5)

Filtering

- ○ Surface Sand Filter (F-1)
- ○ Underground Sand Filter (F-2)
- ○ Perimeter Sand Filter (F-3)
- ○ Organic Filter (F-4)
- ○ Bioretention (F-5)

Wetlands

- ○ Shallow Wetland (W-1)
- ○ Extended Detention Wetland (W-2)
- ○ Pond/Wetland System (W-3)
- ○ Pocket Wetland (W-4)

Infiltration

- ○ Infiltration Trench (I-1)
- ○ Infiltration Basin (I-2)
- ○ Dry Well (I-3)

Open Channels

- ○ Dry Swale (O-1)
- ○ Wet Swale (O-2)

● Other

Describe other stormwater management practices not listed above or explain any deviations from the technicial standards. If the SWPPP does not conform to the technicial standards, the SWPPP must be prepared and certified by a licensed/certified professional and is subject to a 60-business day review.

Runoff from the loading dock area of the site is defined as hotspot discharge by NYSDEC that requires pretreatment prior to discharging to the Micropool Extended Detention Pond
A NYSDEC approved proprietary product called Stormceptor will be used to pretreat the 90 percent water quality rainfall event

Has a long term Operation and Maintenance plan for the post construction management practices been developed? ● Yes ○ No

If Yes, Identify the entity responsible for the long term Operation and Maintenance

Town of New Windsor, Orange County

Stormwater Pollution Prevention Plan (SWPPP)
Water Quality and Quantity Control

25. Provide the total water quality volume required and the total provided for the site.

Total Water Quality Volume (WQv)

WQv Required	WQv Provided
0.104 acre-feet	0.423 acre-feet

26. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post-developed 1 year, 24 hour storm event

CPv Required	CPv Provided
1.319 acre-feet	1.319 acre-feet

The need to provide for channel protection has been waived because
- ○ **Site discharges directly to fourth order stream or larger**

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development	Post-development
30.49 CFS	23.96 CFS

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development	Post-development
54.84 CFS	46.80 CFS

The need to provide for flood control has been waived because
- ○ **Site discharges directly to fourth order stream or larger**
- ○ **Downstream analysis reveals that flood control is not required**

IMPORTANT: For questions 27 and 28 impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s) (Total Drainage Area = Project Site + Offsite areas)

27. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. **0 %**

28. Post-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. **38 %**

29. Indicate the total number of permanent stormwater management practices to be installed **2**

30. Provide the total number of stormwater discharge points from the site (include discharges to either surface waters or to seperate storm sewer systems) **2**

0567059169

Other Permits

31. Select any other DEC permits that are required for this project or ● None

DEC Permits

○ Air Pollution Control	○ Stream Protection/Article 15
○ Coastal Erosion	○ Water Quality Certificate
○ Hazardous Waste	○ Dam Safety
○ Long Island Wells	○ Water Supply
○ Mined Land Reclamation	○ Freshwater Wetlands
○ Other SPDES	○ Tidal Wetlands
○ Solid Waste	○ Wild, Scenic and Recreational Rivers

Other

32. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

NYR

Details/Comments

Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction. and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name: Michael

MI: R

Print Last Name: Perez

Owner/Operator Signature

Date: / /